ENGINEERING
TOMORROW

Danfoss

May 2021 | Danfoss Climate Solutions for cooling

TECH
INSIDER

Introduction

Danfoss Tech Insider keeps you updated with the latest news on the cooling and industrial products portfolios from Danfoss Climate Solutions. The content is intended to give a quick overview of core technical news and updates in our product portfolio, including links to re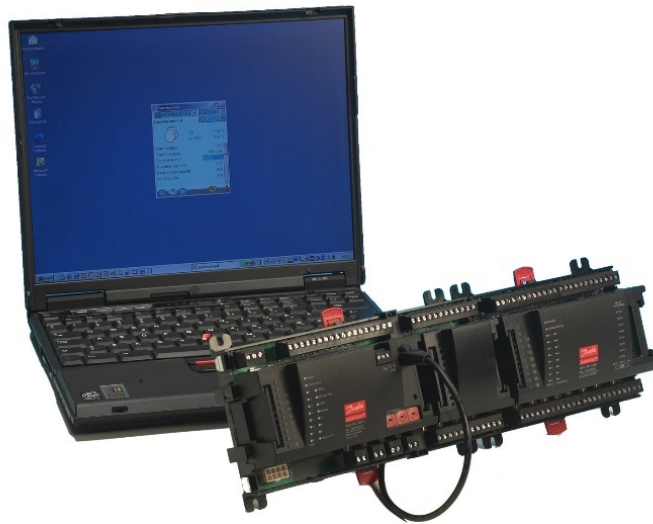levant documentation and more information. Danfoss Tech Insider is sent out, on a monthly basis, to ensure you are always up to date with the latest innovations and changes made to Danfoss products and solutions.
We hope you will enjoy reading Danfoss Tech Insider!

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Updated AK-ST 500 – Service Tool

Danfoss is now introducing a new software for AK-ST 500 – Service tool. The software is updated from version 3.45 to software version 4.00. This update implements support of the new AK-SM 800A, update of icons and application drawings for AK-PC 782.

AK-ST 500 is a software tool (ST) designed specifically to support ADAP-KOOL® (AK) controllers during commissioning, configuration, and service.

The software is not available through a CD anymore, but downloaded for free on the AK-ST 500 site **here**

Features:
- I/O configuration
- Parameter configurations
- Alarms management
- Start-up monitoring
- Logs
- Master control functions setup
- Full overview of system performance

This update includes:
- Support for Windows 10
- Support for tunneling to High-end ADAP-KOOL® controllers via AK-SM8xxA
- Updated icons and application drawings for AK-PC 782

User guide:
Make sure to download the User Guide for the AK-ST 500, which will give an introduction on the possibilities offered to you by AK-ST 500, both in daily use and in connection with service calls.

Important:
Do not run any previous patches after installing AK-ST 500 v. 4.00
If you need additional information, please contact your local Danfoss sales representative.
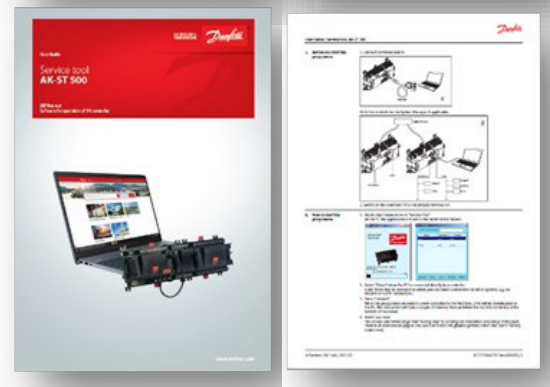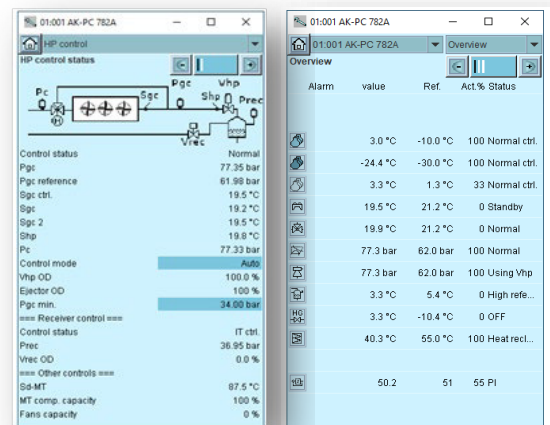
Browser Certificate Issue Related to ADAP-KOOL™ System Manager AK-SM 800A detected

The latest deliveries of our System Manager 800A series have shown a reported issue linked to generating a browser certificate. If this fails to generate, WiFi and RJ45 will no longer be accessible.
Note: Units upgraded from a previous version are NOT impacted!

Mitigation action
- In case an issue is detected, please contact our technical support team following the contact information in this document
- As a next step, our technical support will assess the best available solution to fix the issue. We are certain to be able to solve these cases remotely, therefore no need to send the unit back for replacement.

Deliveries that might be affected
The reported issue is related to last delivered batches ONLY.

Stock
All units on stock are pulled back and updated. Updated and newly produced units will have a green dot added on the package label for better traceability.

Product Codes affected
The reported issue is not related to a certain variant and therefore affects all variants listed below:

AK-SM 820 (RS485)	080Z4024
AK-SM 850 (RS485)	080Z4021
AK-SM 880 (RS485)	080Z4028
AK-SM 880 'TP78 Retro-fit'	080Z4029

Using ICF Valve Instead of EVRA/T

Have you considered ICF as an alternative to EVRA/T?
We are currently experiencing longer than expected lead times on EVRA/T 10, 15 and 20, due to demand and resources.
Do you need to replace an old EVRA/T? Is this something that is potentially an issue to your project?

Consider both ICF EVRA as a replacement for old valves or ICF 15-4 for new projects and see the additional benefits

ICF EVRA

- Shorter lead times
- Flanged design for retrofit of ICF EVRA from existing EVRA/T.
- Higher pressures. ICF 15-4 has a higher MOP of 52 bar.
- Easier installation. One valve, fewer welds and the valve does not need to be dismantled for installation.
- Longevity. As the market moves towards block valve solutions and the potential of older valves being phased out.
- Multiple configurations – Available with multiple different modules so individual components are not required.
- Easily serviceable. Simple isolation of the block valve for servicing.
- Larger working temperature range: -60/+120°C (-76/+248°F)
- Suitable for use with HCFC, non-flammable HFC, NH3 and CO2.

The ICF 15-4 is always fitted with a stop valve and a strainer module. The two remaining module ports allow for multiple different configurations, depending on your requirements.

Further information can be found in the cross reference document or in Coolselector2

# New Compressor Models VZH088/117 with R410A/R452B/R454B Release

Danfoss has released new versions of variable-speed compressor VZH088/117 models which can be used with multiple refrigerants; R410A, R452B, and R454B.

The new models with R410A/R452B/R454B are currently limited to 380-400 V variable speed compressors.

R452B and R454B are HFO/HFC blends with similar capacities to R410A. Due to their limited discharge temperature difference, they are currently the best candidate for a direct drop-in replacement for R410A. And although R452B and R454B are classified A2L, it is considered the least flammable of all the leading R410A replacements.

New models and sales codes have been released:

Nomenclature
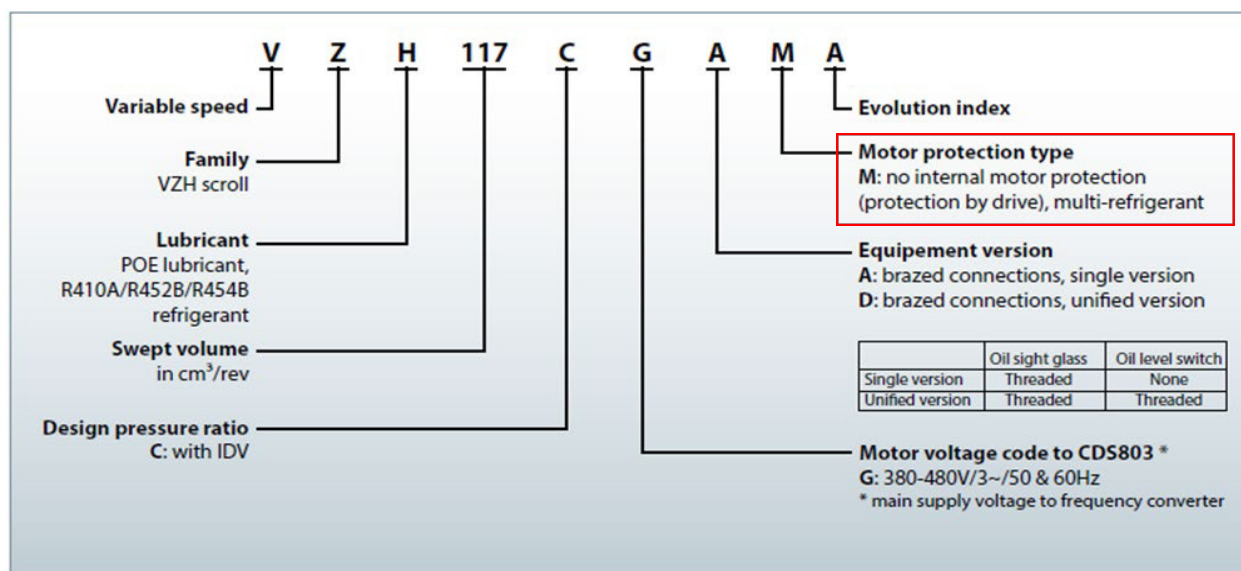
New sales codes

For Single pack orders

Compressor model	Equipment version	Technical Name	Motor code G 380-480V/3ph/50&60Hz
VZH088	Single	VZH088CGAMA	120G0305
	Unified	VZH088CGDMA	120G0307
VZH117	Single	VZH117CGAMA	120G0309
	Unified	VZH117CGDMA	120G0311

For Industrial pack orders

Compressor model	Equipment version	Technical Name	Motor code G 380-480V/3ph/ 50&60Hz
VZH088	Single	VZH088CGAMA	120G0306
VZH088	Unified	VZH088CGDMA	120G0308
VZH117	Single	VZH117CGAMA	120G0310
VZH117	Unified	VZH117CGDMA	120G0312

Operating envelope:
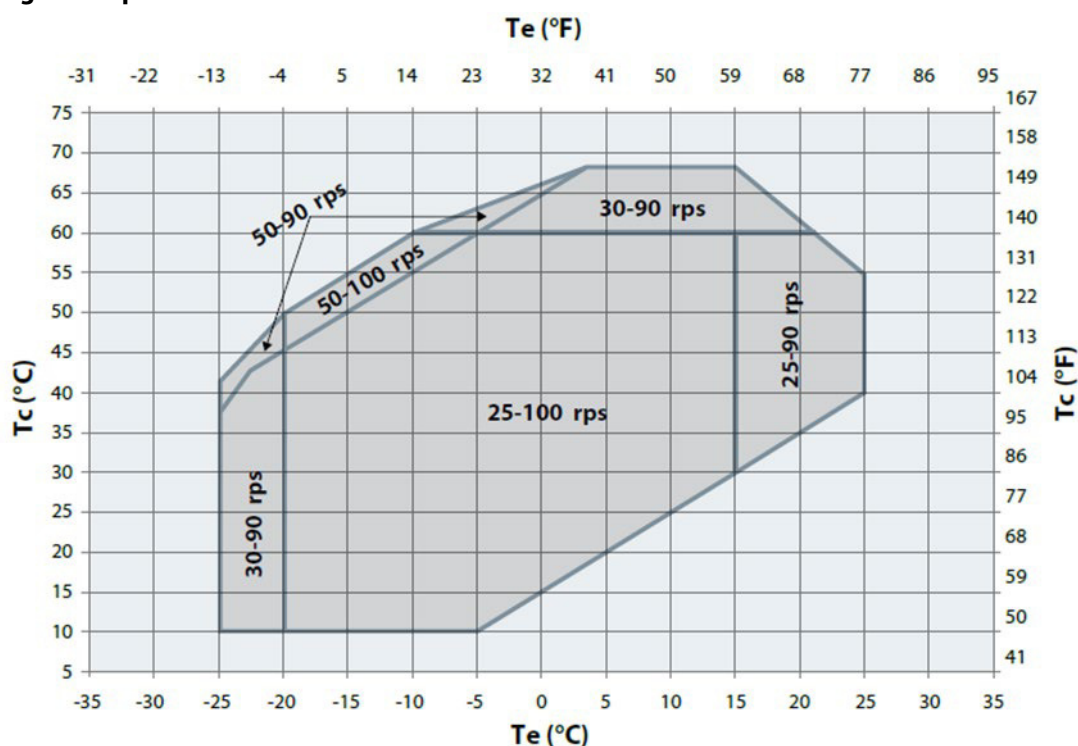
For detailed capacities, please refer to Coolselector2. Polynomial coefficients are also available directly in Coolselector2. For further information, please refer to application guideline.

The VZH088/117 code G new models with R410A/R452B/R454B were released in March 2021.

If you need additional information regarding the VZH088/117 new models with R410A/R452B/R454B release, please contact Danfoss technical support.

Scroll Compressor DSH381 Performances Improvement

Thanks to an optimization of the scroll set, the seasonal efficiency (SEER) of DSH381 has been improved by more than 2%, which is supporting our customers effort to exceed minimum eco-design target.

On 380-400V fixed speed compressors, the change comes along with new motor, with a light impact on locked rotor current (LRA) which will be reduced from 320A to 294 A. This new version of DSH381 will be available on the market by March 31, 2021.

Due to the scroll set modifications, the digit in the model number dedicated to the evolution index will be raised from C to D on all DSH381 models. (Label to the left)

On DSH381 380-400V fixed speed compressors, in addition of the scroll set improvement, the motor has been changed. To reflect this change, the digit dedicated to motor evolution index will be raised from A to B. (Label to the right)

All commercial references remain unchanged.

Order codes DSH381

Packaging	Motor protection	Motor code/refrigerant			
		Code 4 (R410A R454B R452B)	Code 3 (R410A)	Code 7 (R410A)	Code 9 (R410A)
Single pack	Module 24V AC	120H1368	120H1283	120H1295	120H1307
	Module 100–240V	120H1366	120H1281	120H1294	120H1305
Industrial pack	Module 24V AC	120H1367	120H1282	/	120H1306
	Module 110–240V	120H1365	120H1280	/	120H1304

For any questions, please reach out to your local technical support.

Expansion Valve, type AKV P Valve Range Extended with AKV 10P8 and AKV 10PS8

AKV 10P product illustration with label on the top

AKV 10PS

We are very pleased to announce the extended AKVP valve range to include sizes AKV 10P8 direct operated valve and AKV 10PS8 servo designed valve to meet the increasing market demands of higher evaporator cooling capacities. Both versions come with either imperial or metric connections that are available in single format.

To facilitate conversion from other AKVP valve sizes and capacities, we have included the AKV 10P8 orifice and AKV 10PS8 piston in existing AKVP service kits.

AKV 10P/AKV 10PS is a range of electric expansion valves that enhances the function by reducing pulse rate and amplitude in the installation while at the same time increasing the capacity range for all common refrigerants including CO_2. For more information visit our [Infographic](#)

Available Code Numbers
The new AKV 10P8 and AKV 10PS8 code numbers are specified below. See more details in the [AKVP datasheet](#)

AKV 10P8 Single pack version
Imperial [Inch] connections: Code no. 068F5217
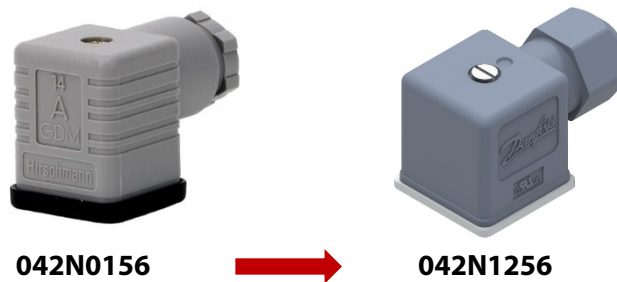Metric [mm] connections: Code no. 068F5207

AKV 10PS8 Single pack version
Imperial [Inch]connections: Code no. 068F4048
Metric [mm] connections: Code no. 068F4039

If you are unable to find a specific product, in the above-mentioned lists; please visit our [Product Store](#) or contact your local Danfoss Sales representative.

Optimized Cable Properties for Cable Plugs

042N0156 → **042N1256**

This change affect cable plug 042N0156 or a product where this plug is included from Danfoss.

As from May 17, 2021 when ordering 042N0156, the order will automatically be swopped to 042N1256.

In all technical matters the enhanced cable plug 042N1256 has same or better properties:

- Easier to tighten around the cable
- Provides better sealing: From IP65 to IP67
- Design and flammability are according to the Low Voltage Directive (EN60730-2-8), ROHS and UL/CSA requirements and E10 for marine applications.

The previous product 042N0156 is 100% phased out and replaced by 042N1256.

For products where 042N0156 is included today we automatically deliver the high performance Danfoss branded IP67 cable plug with DIN connection (Accessory Cable Plug IP67, EN175301-803).

For much more technical information and product availability please visit our Product Store

Livestream Recordings & Videos in YouTube

Livestream recording:

- Oil-free Heat Pump Q&A - LINK
- Smart Sensors and Connectivity - LINK
- The future of connected cooling feat. Alsense™ - LINK

Videos in YouTube:

- A guide to gas detection for all stores – LINK
- How to service a CCMT light – LINK
- A guide to Alsense alarm monitoring– LINK
- IOT energy efficiency w/ Alsense (a clip from the livestream) – LINK
- Turbocor faults and events log download tutorial - LINK

Details for Additional Information

UK/IE

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